

Translation

PATENT COOPERATION TREATY  
PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY  
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference <b>10204</b>	FOR FURTHER ACTION		See Form PCT/IPEA/416
International application No. <b>PCT/JP2004/008970</b>	International filing date (day/month/year) <b>25.06.2004</b>	Priority date (day/month/year) <b>25.06.2003</b>	
International Patent Classification (IPC) or national classification and IPC			
<b>Applicant</b> <b>NOF CORPORATION</b>			

<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <u>5</u> sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input checked="" type="checkbox"/> (<i>sent to the applicant and to the International Bureau</i>) a total of <u>5</u> sheets, as follows:</p> <p><input checked="" type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (<i>sent to the International Bureau only</i>) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>																								
<p>4. This report contains indications relating to the following items:</p> <table> <tbody> <tr> <td><input checked="" type="checkbox"/></td> <td>Box No. I</td> <td>Basis of the report</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. II</td> <td>Priority</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. III</td> <td>Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. IV</td> <td>Lack of unity of invention</td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td>Box No. V</td> <td>Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VI</td> <td>Certain documents cited</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VII</td> <td>Certain defects in the international application</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VIII</td> <td>Certain observations on the international application</td> </tr> </tbody> </table>	<input checked="" type="checkbox"/>	Box No. I	Basis of the report	<input type="checkbox"/>	Box No. II	Priority	<input type="checkbox"/>	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability	<input type="checkbox"/>	Box No. IV	Lack of unity of invention	<input checked="" type="checkbox"/>	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement	<input type="checkbox"/>	Box No. VI	Certain documents cited	<input type="checkbox"/>	Box No. VII	Certain defects in the international application	<input type="checkbox"/>	Box No. VIII	Certain observations on the international application
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Date of submission of the demand	Date of completion of this report
Name and mailing address of the IPEA/JP	Authorized officer
Facsimile No.	Telephone No.

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.  
PCT/JP2004/008970

## Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
 

This report is based on translations from the original language into the following language \_\_\_\_\_ which is the language of a translation furnished for the purposes of:
 
  - international search (Rule 12.3 and 23.1(b))
  - publication of the international application (Rule 12.4)
  - international preliminary examination (Rule 55.2 and/or 55.3)
2. With regard to the elements of the international application, this report is based on (replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report).
 

the international application as originally filed/furnished  
 the description:  
 pages 1, 2, 4, 6-14 as originally filed/furnished  
 pages\* 3, 5 received by this Authority on 28.04.2005  
 pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_  
 the claims:  
 nos. 3, 6 as originally filed/furnished  
 nos.\* \_\_\_\_\_ as amended (together with any statement) under Article 19  
 nos.\* 1, 2, 4, 5, 7 received by this Authority on 28.04.2005  
 nos.\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_  
 the drawings:  
 sheets fig. 1-3 as originally filed/furnished  
 sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_  
 sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_  
 a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.
3.  The amendments have resulted in the cancellation of:
 

the description, pages \_\_\_\_\_  
 the claims, nos. \_\_\_\_\_  
 the drawings, sheets/figs \_\_\_\_\_  
 the sequence listing (specify): \_\_\_\_\_  
 any table(s) related to sequence listing (specify): \_\_\_\_\_
4.  This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
 

the description, pages \_\_\_\_\_  
 the claims, nos. \_\_\_\_\_  
 the drawings, sheets/figs \_\_\_\_\_  
 the sequence listing (specify): \_\_\_\_\_  
 any table(s) related to sequence listing (specify): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

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Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement	
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1. Statement		
Novelty (N)	Claims	1-7
		YES
Inventive step (IS)	Claims	
		NO
Industrial applicability (IA)	Claims	1-7
		YES
	Claims	
		NO

## 2. Citations and explanations (Rule 70.7)

Document 1: JP 2002-543828 A (Yissum Research Development Co. of the Hebrew University of Jerusalem),  
24 December 2002

Document 2: K. ISHIHARA et al., J. Biomater. Sci. Polymer Edn., 1999, Vol. 10, pages 1047 to 1061

Document 3: Y. IWASAKI et al., Biomaterials, 1999, Vol. 20, pages 2185 to 2191

Document 1 discloses a method for preparing embryoid bodies by cultivating embryonic stem cells in a container with surfaces to which said embryonic stem cells do not attach, and discloses a container for the preparation of said embryoid bodies.

Meanwhile, document 2 presents a surface layer comprising a poly [2-methacryloyloxyethyl phosphorylcholine (MPC)-co-n-bucyl methacrylate] copolymer (hereinafter referred to as the PMB copolymer), which is coated upon a base material that is configured from a polyethylene terephthalate (PET) or the like in order to prevent cells from adhering to the aforementioned base material.

Likewise, document 3 presents a surface layer comprising a poly [6-methacryloyloxyhexyl

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phosphorylcholine (MHPC)] (hereinafter referred to as the MHPC homopolymer) and a poly [2-methacryloyloxyethyl phosphorylcholine (MPC)] (hereinafter referred to as the MPC homopolymer), which is coated upon a base material that is configured from a polyethylene (PE) or the like in order to prevent cells from adhering to the aforementioned base material.

The inventions set forth in claims 1 to 7 do not involve an inventive step in the light of document 1 and document 2.

The container for the preparation of embryoid bodies which is disclosed in document 1 has surfaces to which embryonic stem cells do not attach. Meanwhile, surfaces that are configured by coating a PMB copolymer upon a base material so that it will be difficult for cells to adhere thereto are well known, as presented in document 2.

Therefore, it would have been easy for a person skilled in the art to conceive of configuring so that the surfaces of the container for the preparation of embryoid bodies which is disclosed in document 1 are coated with a PMB copolymer, and of further adjusting the content ratio of the MPC within the PMB copolymer at that time.

The inventions set forth in claims 1 to 7 do not involve an inventive step in the light of document 1 and document 3.

The container for the preparation of embryoid bodies which is disclosed in document 1 has surfaces to which embryonic stem cells do not attach. Meanwhile, surfaces that are configured by coating a MHPC

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Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

homopolymer or a MPC homopolymer upon a base material so that it will be difficult for cells to adhere thereto are well known, as presented in document 3.

Therefore, it would have been easy for a person skilled in the art to conceive of configuring so that the surfaces of the container for the preparation of embryoid bodies which is disclosed in document 1 are coated with a MHPC homopolymer or a MPC homopolymer.